



Australian Government

RIIERR305 Control underground fires

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Modification History

Release	Comments
1	This unit of competency was first released in RII Resources and Infrastructure Industry Training Package Release 11.0.

Application

This unit describes the skills and knowledge required to plan and prepare for underground fire-fighting activities and monitor, control and extinguish underground fires in the mining, drilling, extractive and civil infrastructure industries.

It applies to those who work in operational roles. They generally work in teams and have some responsibility for the outcomes of others.

Licensing/Regulatory Information

No licensing, legislative or certification requirements apply to this unit at the time of publication.

Pre-requisite unit(s)

RIIERR303E Operate in self-contained regenerative oxygen breathing apparatus

OR

PUAFIR207 Operate breathing apparatus open circuit

Competency field(s)

N/A

Unit sector(s)

N/A

Elements and Performance Criteria

Element	Performance criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>

1. Plan and prepare to control underground fires	1.1 Access, interpret and apply control of underground fires documentation and ensure the work activity is compliant 1.2 Identify and assess potential risks, hazards and environmental issues and implement control measures 1.3 Select and wear personal protective equipment appropriate for work activity 1.4 Interpret data and reports to determine cause and location of fire and record on the mine plan 1.5 Assess type, size and spread of fire and determine risk level 1.6 Identify and assess potential ignition sources for further fires, determine control measures, and record on the site plan 1.7 Assess secondary risks and recommend actions for control
2. Determine fire-fighting resources and procedures	2.1 Assess fire-fighting personnel's exposure to fire and identify methods and equipment to control risks 2.2 Determine personnel numbers, equipment and personal protective equipment requirements 2.3 Determine fire-fighting strategy and procedures 2.4 Assess fire control equipment and fire-fighting media capability and quantity, and decide on the appropriate course of action 2.5 Communicate and assign activities to personnel 2.6 Identify and apply ventilation monitoring and control measures 2.7 Assess need for evacuation of personnel and take appropriate action 2.8 Prepare action plan according to workplace procedures
3. Control the fire	3.1 Isolate and barricade fire area/zone to prevent entry of non-involved personnel 3.2 Access, assemble and test equipment determined in the action plan 3.3 Apply fire-fighting techniques and methods determined in the action plan 3.4 Maintain communication with other fire-fighters and emergency control personnel on condition of fire and status of fire control operations

	3.5 Monitor fire continually and put controls in place to ensure the safety of personnel in the vicinity of the fire 3.6 Reassess and apply ventilation control measures continually 3.7 Monitor fire-fighting activities continually to determine ability to continue to handle situation and take action 3.8 Minimise damage and disruption to site working during the fire control operation 3.9 Assess fire intensity and magnitude, withdraw from fire zone and relocate fire control equipment to a safe place if fire is uncontrollable 3.10 Bring fire safely under control and extinguish according to situational requirements 3.11 Monitor fire site and take actions to prevent possible re-ignition 3.12 Report to emergency control personnel 3.13 Monitor for structural and ground support integrity
4. Restore and refurbish fire equipment to operational condition	4.1 Inspect equipment for any damage 4.2 Repair, replenish or replace defective/depleted equipment 4.3 Tag, record and quarantine unusable equipment 4.4 Return fire control system and equipment to operational readiness 4.5 Process required written records and reports according to workplace policies and procedures

Foundation Skills

This section describes those language, literacy, numeracy and employment skills that are essential to performance but not explicit in the performance criteria.

Skill	Description
Problem solving	Applies problem solving processes to identify risks, evaluate options and determine solutions
Writing	Prepares specific information that complies with a range of regulatory requirements, using sector-specific terminology
Oral communication	Conveys information and requirements clearly, and listens carefully

Reading	Identifies and interprets relevant information from workplace procedures, documentation, legislation and regulations
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Range of conditions

No conditions apply to this unit of competency at the time of publication.

Unit Mapping Information

Current Code and Title	Previous Code and Title	Comments	Equivalence
RIIERR305 Control underground fires	RIIERR305E Control underground fires	Changes to unit pre-requisites and assessor requirements, including the use of industry experts.	Equivalent

Assessment Requirements for RIIERR305 Control underground fires

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Performance Evidence

The candidate must demonstrate the ability to complete the tasks outlined in the elements, performance criteria and foundation skills of this unit, including evidence of the ability to:

- control underground fires in a manner that safely, effectively and efficiently meets all of the required outcomes on at least two occasions, including:
 - locating firefighting equipment at the site
 - navigating in an underground site
 - reading maps and interpreting symbols
 - locating plant and fire suppression systems on a site layout plan
 - locating and operating fixed and portable fire suppression equipment
 - selecting and using appropriate extinguishing media
 - using and troubleshooting water supply systems and identifying alternative systems
 - determining personnel requirements
 - determining fire-fighting strategies and procedures, including evacuation and post-fire activities.

During the above, the candidate must:

- locate and apply relevant documentation, policies and procedures
- work effectively with others to undertake and complete the control of underground fires that meets all the required outcomes, including:
 - complying with written and verbal reporting requirements and procedures
 - communicating clearly and concisely with others to receive and clarify work instructions
 - communicating clearly and concisely with others to coordinate work activities
 - operating emergency communications systems.

Knowledge Evidence

The candidate must be able to demonstrate knowledge to complete the tasks outlined in the elements, performance criteria and foundation skills of this unit, including knowledge of:

- types and causes of hazards and incidents in underground sites
- effects of hot and humid atmospheres in underground sites
- location and distribution of caches
- trigger points to initiate emergency response to alarms
- locations and purposes of places of safety
- guidance system and marker uses
- key components and requirements of site emergency plans
- locations of escape routes and alternative escape routes
- functions of underground ventilation systems
- types and effects of harmful gases in underground sites
- rescue team structure, roles and responsibilities
- operation and limitations of breathing apparatus
- standby/emergency procedures for incident control
- types of fire and associated risks and control measures
- ventilation management techniques
- properties of extinguishing media and the selection of those appropriate to the situation
- fire-ground management procedures
- sector-specific signals required for work activity
- techniques for refurbishing fire-fighting equipment and systems.

Assessment Conditions

The assessment must:

- include access to:
 - site plans
 - breathing apparatus
 - personal protective equipment required for the activities described in the performance evidence
- be conducted in a safe environment
- be assessed in context of this sector's work environment

- be assessed in compliance with relevant legislation and regulations and using policies, procedures, processes and operational manuals directly related to the industry sector for which it is being assessed
- confirm consistent performance can be applied in a range of relevant workplace circumstances.

Where personal safety or environmental damage are limiting factors, assessment may occur in a simulated work environment* provided it is realistic and sufficiently rigorous to cover all aspects of this sector's workplace performance, including environment, task skills, task management skills, contingency management skills and job role environment skills.

*Guidance on simulated environments has been stipulated in the RII Companion Volume Implementation Guide.

Industry Experts

An industry expert engaged by an RTO to wholly or partially conduct assessment, independently or together with another assessor, or be involved in an assessment judgement, must also satisfy the assessor requirements in applicable vocational education and training legislation, frameworks and/or standards.

Assessors and industry experts delivering training in the emergency response industry sector must also have a minimum of two (2) years industry experience, directly relevant to the training and assessment being provided.

Link

Companion volumes, including implementation guides, are found on the national training register - <https://training.gov.au/training/details/RII>.